

Claims

1. A method of packaging integrated circuits comprising:

attaching a first integrated circuit to a first face of an substrate with electrical connection between corresponding contacts of the substrate and the  
5 first integrated circuit;

attaching a second integrated circuit to a second face of an substrate with electrical connection between electrical contacts of the substrate and the second integrated circuit; and

a moulding step in which the first and second integrated circuits are  
10 encased in resin.

2. A method according to claim 1 in which the substrate includes holes extending between the faces, the encasing step including applying resin to a first side of the substrate, the resin flowing through the holes to the second side of the substrate, whereby the resin forms a single resin body encasing  
15 both of the integrated circuits.

3. A method according to claim 2 in which, before said moulding step, a box is attached to the second side of the substrate defining a volume for receiving resin.

4. A method according to claim 3 in which the box includes openings  
20 defining exit paths for gas within the box.

5. A method according to any preceding claim in which the moulding step is performed at a pressure of less than one atmosphere.

6. A method according to any preceding claim in which the substrate is laminar having at least one face which includes solder balls, the moulding  
25 step forming resin on that face having a maximum distance from the plane of

said substrate which is smaller than the maximum extension of the solder balls from the plane of the substrate.

7. A method according to claim 6 in which the solder balls are arranged in an array having a region without solder balls, the integrated circuit  
5 corresponding to that side of the substrate being located in said region.

8. A method according to any preceding claim in which at least one of the integrated circuits is a flip chip.

9. A method according to claim 8, when dependent on claim 6 or claim 7, in which the flip chip is located on the face of the substrate which includes the  
10 solder balls.

10. A method according to claim 8 in which the flip chip is located in a recessed portion of the substrate.

11. A method according to any preceding claim in which the electrical contacts of at least one of the integrated circuits are connected to electric  
15 contacts on the substrate by wire bonding.

12. A package produced by a method according to any of claims 1 to 11.

13. A substrate for use in a method according to any preceding claim.

14. An integrated circuit package comprising a substrate including electrical contacts and integrated circuits attached to opposite sides of the  
20 substrate with their electrical contacts electrically connected to corresponding electrical contacts on the substrate, each of the integrated circuits being encased in resin.

15. An integrated circuit package according to claim 14 in which a single resin body encases both the integrated circuits and extends through holes in  
25 the substrate.